

**Technical Memorandum
No. 3: MANE-VU
Residential Wood
Combustion EI Project:
Pilot Survey and Final
Survey Instrument**

PECHAN

Prepared for:

MARAMA
Mid-Atlantic Regional Air Management Association
711 W. 40th Street, Suite 318
Baltimore, MD 21211-2109

Prepared by:

Population Research Systems, LLC
a subsidiary of Freeman, Sullivan & Co.
100 Spear St., Suite 1700
San Francisco, Ca 94105

and

E.H. Pechan & Associates, Inc.
P.O. Box 1575
Shingle Springs, CA 95682

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MANE-VU
TECHNICAL MEMORANDUM #3

Telephone Interview Development

Population Research Systems (PRS), a subsidiary of Freeman, Sullivan & Co., received a copy of the 13-page MANE-VU Residential Wood Combustion Survey from E.H. Pechan & Associates, Inc. In collaboration with the E.H. Pechan project manager, PRS made some minor revisions to the telephone interview including: 1) adding some introductory text, 2) adding skip patterns which instruct the CATI program which questions to ask certain types of respondents, 3) re-wording some questions and response categories, 4) re-ordering some questions, 5) adding a behavioral time period from April 2002 through April 2003 (when the actual study is conducted next year, this time period will be changed to January 2002 through December 2002), 6) adding additional questions for respondents who have two woodstoves/fireplace inserts or indoor wood burning devices.

A copy of the final telephone interview is contained within Appendix A.

CATI Programming

The MANE-VU Residential Wood Combustion Survey was programmed for use by the PRS computer-assisted telephone interviewing (CATI) laboratory by an experienced Sawtooth CI3 CATI programmer who is employed by PRS on a contract basis. PRS CATI laboratory staff were responsible for testing the instrument to ensure that the content was accurate and that the skip patterns worked correctly.

Pilot Study

PRS agreed to provide 12 pilot study interviews in English from residential households in three general land use/cover areas of New York State: Urban, Suburban, and Rural. Four interviews were to be completed in each land use/cover area. See Table I on the following page.

<u>Table I</u>	
<u>Geographic Area</u>	<u>Number of Interviews</u>
Urban	4
Suburban	4
Rural	4
TOTAL	12

A. Sample Purchase, Preparation, and Loading

E.H. Pechan & Associates, Inc. delineated census tracts within the New York portion of the sampling frame. Pechan provided this census tract information to PRS grouped by Urban, Suburban, and Rural so that PRS could purchase residential listed sample from Marketing Systems Group (MSG), a sampling vendor in Pennsylvania. Each piece of sample contained the census tract number, a residential name, street address, and zip code, and home telephone number.

Ninety-nine records of sample were prepared and loaded into the PRS CATI system in order to complete the pilot study interviews. Each record was “flagged” to identify the type of land use/cover area from which it was drawn so that a tally by Urban, Suburban, and Rural areas could be made at the conclusion of the pilot study.

B. Pilot Study Staff Training

PRS trained two CATI interviewers and three CATI laboratory supervisory staff concerning the MANE-VU Residential Wood Combustion Survey pilot study. Pechan and PRS conducted the two-hour training session together. The purpose of the training was to familiarize PRS interviewing and supervisory staff with the project, the research goals, project procedures, and content of the telephone interview. Pechan provided background information concerning the project and the types of wood burning equipment being studied. PRS interviewers were provided both a copy of the telephone interview (see Appendix A) and the project Frequently Asked Questions (FAQs) (see Appendix B).

The training included a question-by-question review of the instrument. Interviewers then role-played to become familiar with the instrument. During the role-play, each interviewer was

observed by a supervisor and approved for interviewing only after the supervisor was confident that the questionnaire and study protocol had been mastered.

C. Pilot Study Interviewing Period

The pilot study was conducted on November 27, 2002 and November 29, 2002 by PRS interviewing staff. Interviews were conducted on November 27th between the hours of 11 AM and 2 PM Pacific Standard Time (PST). On November 29th, the interviewing hours were 3 PM to 6 PM PST. On average, the pilot study interviews took 7.5 minutes to administer.

D. Telephone Contact Outcomes

Of the 96 records of sample dialed (residential telephone numbers), there were 15 completed interviews. The outcome of each piece of sample is noted below in Table II.

<u>Table II</u>	
<u>Telephone Contact Outcome</u>	<u>Records Dialed</u>
Completed interview	15
Callback-eligibility unknown*	30
Refusal-eligible respondent	3
Refusal-respondent eligibility unknown*	9
Answering machine, no answer, busy	21
Fax line	2
Non-working number	11
Quota full**	1
Language barrier	4
Not attempted***	3
TOTAL SAMPLE	99

*Interviewer had insufficient information to determine whether these potential respondents were eligible to participate in the study.

**Three quota cells were established for the three general land use categories: Urban, Suburban, and Rural.

***These households were not called because the pilot study had been completed.

E. Pilot Study Results

A total of 15 pilot study interviews were completed with five interviews completed in each general land use/cover area. Three households burned wood from April 2002 through April 2003; four households had wood burning equipment, but did not burn any wood during the designated time interval; and eight households did not burn any wood during the time interval and did not have any wood burning equipment at their residence. Pilot study results are presented in Tables III and IV below and on the following page.

<u>Table III</u>				
<u>Geographic Area</u>	<u>Number of Interviews</u>	<u>Wood Burning</u>		
		<u>Wood Burning Residence</u>	<u>Non Wood Burning Residence with Equipment</u>	<u>Non Wood Burning Residence without Equipment</u>
Urban	5	1	2	2
Suburban	5	0	1	4
Rural	5	2	1	2
TOTALS	15	3	4	8

Table IV					
Respondent ID #	Type of Equipment	Annual Wood Consumption Real Wood	Annual Wood Consumption Artificial Wood	Wood Burning Times	
				Weekdays or Weekends	Morning or Evening
Respondent #5	Fireplace	“A lot” from 5 fireplaces	None	Weekdays	Both
Respondent #11	Fireplace or masonry heater	Don’t know	None	Weekends	Evening
Respondent #19	Wood stove or fireplace insert	1.5 cords	None	Both	Both

F. Interviewer De-Brief

PRS conducted a pilot study de-brief with the CATI interviewing staff on December 3, 2002. Interviewers reported that the instrument worked well and that respondents were very willing to participate in the interview. The interviewers also stated that respondents understood the questions and the definition of terms provided and that the skip patterns worked appropriately.

One respondent, who was very familiar with wood burning, found that repetition of the units of measure for real wood e.g., cords, half-cords, pick-up truck loads, and bundles, was annoying. She hung up when the interviewer read the list of units to her for the second time.

Respondents had difficulty estimating the amount of real wood that they burned. These questions need to be revised for the actual study so that better data can be obtained.

Recommendations

1. The most important lesson learned during the pilot study relates to the ability of respondents to provide seasonal or annual wood consumption estimates. Occasional wood burners do have difficulties in estimating and quantifying the amount of wood burned. This is not surprising for occasional wood burners; however these respondents will make up a significant portion of the population being surveyed.

An alternative line of questioning has been added to the survey in Attachment A that will better elicit some type of quantitative response in order to calculate an annual consumption estimate (in those cases in which the respondent is unable to answer the initial question regarding annual usage). As an example, PRS will ask respondents who burn real wood, “When you light a fire, about how many logs do you use?” followed by a question which asks, “How often do you light a fire?” to measure the frequency with which respondents have fires (e.g., once per week, 10 times a month, etc.). Similar questions have been added to better quantify artificial wood consumption as well. The study interviewers will be extensively coached by PRS concerning how to effectively elicit this information from respondents. Pechan will review all consumption responses and will quantify annual consumption.

2. Retain the pilot study interviewers.

3. If a respondent proves knowledgeable about wood burning and has already had the units of measure for real or artificial wood read to him/her once before, interviewers can forgo reading the descriptions a second time in those situations only. Interviewers will continue to read the descriptions each time for respondents who are not familiar with wood burning.

Appendix A

Telephone Interview

RESIDENTIAL WOOD COMBUSTION QUESTIONNAIRE

PRS PROJECT #950

I. INTRODUCTION

INTRO1. Hello. My name is _____ and I'm calling on behalf of the New York State Department of Environmental Conservation. May I speak with _____?

- | | |
|-----------------------------|-----------------------|
| 1. Yes, speaking | (Go to INTRO2) |
| 2. Yes, coming to the phone | (Go to INTRO3) |
| 3. Yes, not home now | (Skip to CALLBACK1) |
| 4. No | (Terminate interview) |
| 8. DON'T KNOW | (Terminate interview) |
| 9. REFUSED | (Terminate interview) |

INTRO2. We are calling to ask you some questions about your use of wood for heating or other purposes. Your household was randomly selected for this study. The interview will take about 10 minutes and your responses will be kept confidential (Go to INTRO4).

<If respondent says that they don't burn wood, say: "I still have a few questions that I'd like to ask you">.

- | | |
|-----------------------------|----------------|
| 1. Proceed to next question | (Go to INTRO4) |
| 2. Doesn't burn wood | (Go to Q1a) |

INTRO3. Hello. My name is _____ and I'm calling on behalf of the New York State Department of Environmental Conservation. I'm calling to ask you some questions about your use of wood for heating or other purposes. Your household was randomly selected for this study. The interview will take about 10 minutes and your responses will be kept confidential (Go to INTRO4).

<If respondent says that they don't burn wood, say: "I still have a few questions that I'd like to ask you">.

- | | |
|-----------------------------|----------------|
| 1. Proceed to next question | (Go to INTRO4) |
| 2. Doesn't burn wood | (Go to Q1a) |

CALLBACK1. What would be a good time to call back? (End call)

INTRO4. Before we begin, I need to be sure that you qualify for the study (Go to Q1a).

Q1a. In what state or city do you live? _____

88. DON'T KNOW (Terminate interview)

99. REFUSED (Terminate interview)

ELIGIBLE STATES

Delaware (1)

The District of Columbia (2)

Maine (3)

Maryland (4)

Massachusetts (5)

New Hampshire (6)

New Jersey (7)

New York (8)

Pennsylvania (9)

Rhode Island (10)

Vermont (11)

Connecticut (12)

DON'T KNOW (88)

REFUSED (99)

Q1b. In what county do you live? _____

8. DON'T KNOW (Terminate interview)

9. REFUSED (Terminate interview)

Q1c. What is your zip code? _____

8. DON'T KNOW (Terminate interview)

9. REFUSED (Terminate interview)

Q1d. Are you age 18 or above?

1. Yes (Go to Q1e)

2. No, under 18 (Go to Q2a)

8. DON'T KNOW (Terminate interview)

9. REFUSED (Terminate interview)

Q1e. Are you the household member who is most familiar with wood burning at your residence?

1. Yes (Go to Q5)

2. Yes, but we don't burn wood (Go to INTRO5)

2. No (Skip to CALLBACK2)

8. DON'T KNOW (Skip to CALLBACK2)

9. REFUSED (Terminate interview)

INTRO5. We still have a few questions that we'd like to ask you if that would be alright (Go to Q5).

CALLBACK 2. Who should I ask for when I call? When would be a good time to call back?
(End call).

Q2a. We need to speak with someone who is 18 years of age or older. Is there someone else within your home aged 18 or above who I could speak with?

- 1. Yes, coming to the phone (Go to INTRO6)
- 2. Yes, not home now (Schedule CALLBACK2)
- 3. No (Terminate interview)
- 8. DON'T KNOW** (Terminate interview)
- 9. REFUSED** (Terminate interview)

INTRO6. Hello. My name is _____ and I'm calling on behalf of the New York State Department of Environmental Conservation. I'm calling to ask you some questions about your use of wood for heating or other purposes. Your household was randomly selected for this study. The interview will take about 10 minutes and your responses will be kept confidential (Go to Q3).

- 1. Proceed to next question
- 2. Doesn't burn wood (Skip to INTRO5)

Q3. Just to verify before we begin. Are you age 18 or above?

- 1. Yes (Go to Q4)
- 2. No, under 18 (Go to INTRO7)
- 8. DON'T KNOW** (Terminate interview)
- 9. REFUSED** (Terminate interview)

Q4. Are you the household member who is most familiar with wood burning at your residence?

- 1. Yes (Go to Q5)
- 2. Yes, but we don't burn wood (Go to INTRO8)
- 3. No (Go to CALLBACK2)
- 8. DON'T KNOW** (Go to CALLBACK2)
- 9. REFUSED** (Terminate interview)

INTRO7. Thank you for being willing to participate in the interview. Unfortunately because you are under the age of 18, you are not eligible to participate in the study
(Terminate call).

INTRO8. We still have a few questions that we'd like to ask you if that would be alright (Go to Q5).

Q5. What type of house do you live in? Is it:

1. A single family detached house in which no walls are shared with another dwelling
2. A single family attached house such as a duplex or triplex townhouse <or>
3. Other such as a multi-family dwelling of 4 or more units or a mobile home
- 8. DON'T KNOW** (Terminate interview)
- 9. REFUSED** (Terminate interview)

II. EQUIPMENT TYPES

Q6a1. Do you have a wood burning fireplace or a masonry heater at your residence? <If needed: a masonry heater stores heat from a fire and radiates warmth as the heat is slowly released>

- | | |
|----------------------|---------------|
| 1. Yes | (Go to Q6a1b) |
| 2. No | (Go to Q6a2) |
| 8. DON'T KNOW | (Go to Q6a2) |
| 9. REFUSED | (Go to Q6a2) |

Q6a1b. How many wood burning fireplaces or masonry heaters do you have? _____

- 88. DON'T KNOW**
99. REFUSED

Q6a2. Do you have a woodstove or fireplace insert? A fireplace insert is placed in the cavity of a fireplace and has doors. It typically has a blower or fan to circulate the heat.

- | | |
|----------------------|---------------|
| 1. Yes | (Go to Q6a2b) |
| 2. No | (Go to Q6a3) |
| 8. DON'T KNOW | (Go to Q6a3) |
| 9. REFUSED | (Go to Q6a3) |

Q6a2b. How many wood stoves or fireplace inserts do you have? _____

- 88. DON'T KNOW**
99. REFUSED

Q6a3. Do you have a pellet stove?

- | | |
|----------------------|---------------|
| 1. Yes | (Go to Q6a3b) |
| 2. No | (Go to Q6a4) |
| 8. DON'T KNOW | (Go to Q6a4) |
| 9. REFUSED | (Go to Q6a4) |

Q6a3b. How many pellet stoves do you have? _____

88. DON'T KNOW

99. REFUSED

Q6a4. Do you have a wood-fired furnace or boiler?

<INTERVIEWER: Note that these devices can be either indoor or outdoor>

1. Yes (Go to Q6a4b)

2. No (Go to Q6a5)

8. DON'T KNOW (Go to Q6a5)

9. REFUSED (Go to Q6a5)

Q6a4b. How many wood-fired furnaces or heaters do you have? _____

88. DON'T KNOW

99. REFUSED

Q6a5. Do you have any other indoor wood burning appliances that we haven't talked about yet?

1. Yes (Go to Q6a5b)

2. No (Go to Q6a6)

8. DON'T KNOW (Go to Q6a6)

9. REFUSED (Go to Q6a6)

Q6a5b. How many other indoor wood burning appliances do you have? _____

88. DON'T KNOW

99. REFUSED

Q6a5b1. What type of indoor wood burning appliances do you have?

(8) DON'T KNOW

(9) REFUSED

Q6a2x. <If respondent mentions wood-fired stove in response to Q6a5b1, indicate that Q6a2 Eq 1 and then ask Q6a2b and then skip to Q6a6>

1. Yes

2. No (Go to Q6a6)

8. DON'T KNOW (Go to Q6a6)

9. REFUSED (Go to Q6a6)

Q6a2bx. How many wood stoves or fireplace inserts do you have? _____

88. DON'T KNOW

99. REFUSED

Q6a6. Do you have any outdoor wood burning equipment such as a fire pit, wood burning barbeque, outdoor fireplace, or chiminea?

1. Yes (Go to Q6a6b)

2. No

8. DON'T KNOW

9. REFUSED

<If Q6a6 Eq 2 and Q6a1 Eq 1, go to Q8>

<If Q6a6 Eq 8 and Q6a1 Eq 1, go to Q8>

<If Q6a6 Eq 9 and Q6a1 Eq 1, go to Q8>

<If Q6a6 Eq 2 and Q6a2x Eq 1, skip to Q15>

<If Q6a6 Eq 8 and Q6a2x Eq 1, skip to Q15>

< If Q6a6 Eq 9 and Q6a2x Eq 1, skip to Q15>

<If Q6a6 Eq 2 and Q6a3 Eq 1, skip to Q28>

<If Q6a6 Eq 8 and Q6a3 Eq 1, skip to Q28>

<If Q6a6 Eq 9 and Q6a3 Eq 1, skip to Q28>

<If Q6a6 Eq 2 and Q6a4 Eq 1, skip to Q32>

<If Q6a6 Eq 8 and Q6a4 Eq 1, skip to Q32>

<If Q6a6 Eq 9 and Q6a4 Eq 1, skip to Q32>

<If Q6a6 Eq 2 and Q6a5 Eq 1, skip to Q39>

<If Q6a6 Eq 8 and Q6a5 Eq 1, skip to Q39>

<If Q6a6 Eq 9 and Q6a5 Eq 1, skip to Q39>

<If Q6a6 Eq 1 skip to Q52>

<If Q6a6 Eq 1, skip to Q6a6b>

<If Q6a6 Eq 2, 8, or 9, skip to Thank>

Q6a6b. How many other outdoor wood burning appliances do you have? _____

88. DON'T KNOW

99. REFUSED

Q6a6b1. Do you have a: (Read responses, multiple response)

- (1) Fire pit
- (2) Wood burning barbeque
- (3) Outdoor fireplace
- (4) Chiminea <or>
- (5) Other (specify) _____
- (7) **DON'T KNOW**
- (8) **REFUSED**

<If Q6a1 Eq 1, go to Q8>

<If Q6a2x Eq 1, skip to Q15>

<If Q6a3 Eq 1, skip to Q28>

<If Q6a4 Eq 1, skip to Q32>

<If Q6a5 Eq 1, skip to Q39>

<If Q6a6 Eq 1, skip to Q52>

<If Q6a1 Eq 8 or 9 and Q6a2 Eq 8 or 9 and Q6a3 Eq 8 or 9 and Q6a4 Eq 8 or 9 and Q6a5 Eq 8 or 9 and Q6a6 Eq 8 or 9 skip to TERM>

<If Q6a1 Eq 2 and Q6a2 Eq 2 and Q6a3 Eq 2 and Q6a4 Eq 2 and Q6a5 Eq 2 and Q6a6 Eq 2 skip to TERM>

III. WOOD BURNING FIREPLACES AND MASONRY HEATERS

Q8. Thinking back over the past year from May 2002 through April 2003, did you burn any real wood or artificial logs in your fireplace(s) or masonry heater(s)? Would you say you burned:

1. Real wood (Go to Q9)
2. Artificial logs (Go to Q12)
3. Both types of wood <or that> (Go to Q9)
4. You did not burn any wood

8. DON'T KNOW

9. REFUSED

<If Q6a2 Eq 1 and Q8 Eq 4, 8, or 9, skip to Q15>
<If Q6a2x Eq 1 and Q8 Eq 4, 8, or 9, skip to Q15>
<If Q6a3 Eq 1 and Q8 Eq 4, 8, or 9, skip to Q28>
<If Q6a4 Eq 1 and Q8 Eq 4, 8, or 9, skip to Q32>
<If Q6a5 Eq 1 and Q8 Eq 4, 8, or 9, skip to Q39>
<If Q6a6 Eq 1 and Q8 Eq 4, 8, or 9, skip to Q52>
<If Q6a6 Eq 1 and Q8 Eq 4, 8, or 9, skip to THANKS>

Q9. Now we need to find out how much real wood you burned in your fireplace(s) or masonry heater(s) from May 2002 through April 2003. There are four units of measure: full cords; "fireplace" or 1/2 cords; pick-up truck loads; and bundles.

A full cord is a stack of wood that is 4 feet high, 8 feet long, and 2 sets of logs deep. A 1/2 cord is a stack of wood that is 4 feet high, 8 feet long, and 1 set of logs deep. A face cord is 1/3 of a cord.

A pick-up truck load is just over a 1/3rd of a cord. A bundle is the amount you usually buy at the grocery store or about 3 to 5 logs.

How much real wood would you say you burned?

88. DON'T KNOW (Go to Q9a)

99. REFUSED (Go to Q9a)

<If Q8 Eq 1, go to Q10. If Q8 Eq 2, skip to Q12. If Q8 Eq 3, go to Q10>

Q9a. When you light a fire, about how many logs do you use?

88. DON'T KNOW

99. REFUSED

Q9b. How often do you light a fire?

88. DON'T KNOW

99. REFUSED

<If Q8 Eq 1, go to Q10. If Q8 Eq 2, skip to Q12. If Q8 Eq 3, go to Q10>

Q10. Did you burn any of the following types of real wood in your fireplace(s) or masonry heater(s) from May 2002 through April 2003? (Read responses, multiple response)

- (1) Oak or hickory
- (2) Pine
- (3) Hemlock or spruce
- (4) Maple, beech, or birch
- (5) Other hardwood
- (6) Other softwood <or>
- (7) Other (specify) _____
- (8) DON'T KNOW**
- (9) REFUSED**

<If Q10 has 1 answer only and Q8 Eq 2, skip to Q12>.
 <If Q10 has 1 answer only and Q8 Eq 3, skip to Q12>
 <If Q10 has 1 answer only and Q8 Eq 1, skip to Q13>
 <If Q10 has more than 1 answer, go to Q11>

<For Q11, show answers from Q10>

Q11. What percent of <name of wood from Q10> did you burn from May 2002 through April 2003?

- Oak or hickory _____%
- Pine _____%
- Hemlock or spruce _____%
- Maple, beech, or birch _____%
- Other hardwood _____%
- Other softwood <or> _____%
- Other (specify) <CATI fill-in name> _____%
- DON'T KNOW (88)**
- REFUSED (99)**

<If Q8 Eq 2 or 3, go to Q12, otherwise skip to Q13>

Q12. How much artificial wood such as Duraflame, Pine Mountain, and Hearthlogg did you burn in your fireplace(s) or masonry heater(s) from May 2002 through April 2003. There are two units of measure, logs or tons. A pallet of logs usually weighs a ton.

How much artificial wood would you say you burned? (Go to Q12_B)

-
- 8. DON'T KNOW (Go to Q12a1)**
 - 9. REFUSED (Go to Q12a2)**

Q12a1. When you light a fire, about how artificial wood do you use?

- 888. DON'T KNOW**
- 999. REFUSED**

Q12a2. How often do you light a fire? (Go to Q13)

- 88. DON'T KNOW**
- 99. REFUSED**

Q12_B. If respondent says that the unit of measure is a box or a case:

- 1. Yes, said box (Go to Q12_BN)**
- 2. No, did not say box (Skip to Q13)**
- 8. DON'T KNOW (Skip to Q13)**
- 9. REFUSED (Skip to Q13)**

Q12_BN. How many logs was that? _____

- 888. DON'T KNOW**
- 999. REFUSED**

Q13. Now, I'd like you to tell me how many days each month from May 2002 through April 2003 your fireplace(s) or masonry heater(s) were used. Let's start with May 2002. How many days were your fireplace(s) or masonry heater(s) used in May 2002? How about June 2002?

- 1. Days (Go to Q13a)
- 2. Seasons (Skip to Q13S)
- 8. DON'T KNOW** (Skip to Q14a)
- 9. REFUSED** (Skip to Q14a)

Q13a. Days

- a. May 2002 _____
- b. June 2002 _____
- c. July 2002 _____
- d. August 2002 _____
- e. September 2002 _____
- f. October 2002 _____
- g. November 2002 _____
- h. December 2002 _____
- i. January 2003 _____
- j. February 2003 _____
- k. March 2003 _____
- l. April 2003 _____

DON'T KNOW (888)
REFUSED (999)

(Skip to Q14a)

Q13S. How did you typically use your fireplace(s) or masonry heater(s) in each season? Spring includes March 2002 through May 2002. Summer includes June through August 2002. Fall includes September through November 2002 and Winter includes December 2002 through February 2003.

DON'T KNOW (888)
REFUSED (999)

Q14a. From May 2002 through April 2003, did you typically use your fireplace(s) or masonry heater(s) to burn wood on: (Read categories)

Weekdays (1) (Go to Q14b)
Weekends (2) <or> (Go to Q14b)
Weekdays and weekends (3) (Go to Q14c)
DON'T KNOW (8)
REFUSED (9)

Q14b. From May 2002 through April 2003, did you typically use your fireplace(s) or masonry heater(s) to burn wood: (Read categories)

In the morning only (1)
In the evening only (2) <or>
Throughout the day and evening (3)
DON'T KNOW (8)
REFUSED (9)

<If Q14a Eq 1, 2, 8, or 9 and Q6a2x Eq 1, skip to Q15>
<If Q14a Eq 1, 2, 8, or 9 and Q6a3 Eq 1, skip to Q28>
<If Q14a Eq 1, 2, 8, or 9 and Q6a4 Eq 1, skip to Q32>
<If Q14a Eq 1, 2, 8, or 9 and Q6a5 Eq 1, skip to Q39>
<If Q14a Eq 1, 2, 8, or 9 and Q6a6 Eq 1, skip to Q52>

Q14c. From May 2002 through April 2003, did you typically use your fireplace(s) or masonry heater(s) on weekdays and weekends to burn wood: (Read categories)

In the morning only (1)
In the evening only (2) <or>
Throughout the day and evening (3)
DON'T KNOW (8)
REFUSED (9)

<If Q6a2 Eq 1, skip to Q15>
<If Q6a3 Eq 1, skip to Q28>
<If Q6a4 Eq 1, skip to Q32>
<If Q6a5 Eq 1, skip to Q39>
<If Q6a6 Eq 1, skip to Q52>
<If Q6a1 Eq 1, skip to THANK>

IV. WOODSTOVE/FIREPLACE INSERTS

<Show response from Q6a2b>

<If Q6a2b>1, say, "I'm going to ask you questions about your two most commonly used wood stoves or fireplace inserts. Let's start with the first device."

Q15. Is this wood stove or fireplace insert a catalytic device?

- 1. Yes
- 2. No
- 8. Don't Know**
- 9. Refused**

Q16. Was your woodstove or fireplace insert purchased after July 1990?

- 1. Yes (Go to Q18 if Q6a2b or Q6a2bx >1)
- 2. No (Go to Q17)
- 8. Don't Know** (Go to Q17)
- 9. Refused** (Go to Q17)

<If Q16 Eq 1 and Q6a2b or Q6a2bx Eq1, Go to Q21>

What is the brand and model of your wood stove or fireplace insert? Let's start with the brand. What is the model?

Q17. Brand: _____

Don't Know (88)
Refused (99)

Q17a. Model: _____

Don't Know (88)
Refused (99)

<If Q6a2b >1, go to Q18, otherwise skip to Q21>

Q18. I'd now like to ask you some questions about your second wood stove or fireplace insert. Is this wood stove or fireplace insert a catalytic device?

- 1. Yes
- 2. No
- 8. Don't Know**
- 9. Refused**

Q19. Was your woodstove or fireplace insert purchased after July 1990?

- 1. Yes (Go to Q21)
- 2. No (Go to Q20)
- 8. Don't Know (Go to Q20)**
- 9. Refused (Go to Q20)**

What is the brand and model of your wood stove or fireplace insert? Let's start with the brand. What is the model?

Q20. Brand: _____

Don't Know (88)
Refused (99)

Q20a. Model: _____

Don't Know (88)
Refused (99)

Q21. Thinking back over the past year from May 2002 through April 2003, did you burn any real wood or artificial logs using your woodstove(s) or fireplace insert(s)? Would you say you burned:

- 1. Real wood (Go to Q22)
- 2. Artificial logs (Go to Q25)
- 3. Both types of wood <or that> (Go to Q22)
- 4. You did not burn any wood
- 8. DON'T KNOW**
- 9. REFUSED**

<If Q6a3 Eq 1 and Q21 Eq 4, 8, or 9, skip to Q28>

<If Q6a4 Eq 1 and Q21 Eq 4, 8, or 9, skip to Q32>

<If Q6a5 Eq 1 and Q21 Eq 4, 8, or 9, skip to Q39>

<If Q6a6 Eq 1 and Q21 Eq 4, 8, or 9, skip to Q52>

<If Q6a2x Eq 1, skip to THANK>

Q22. Now we need to find out how much real wood you burned in your wood stove(s) or fireplace insert(s) from May 2002 through April 2003. There are four units of measure: full cords; “fireplace” or 1/2 cords; pick-up truck loads; and bundles.

A full cord is a stack of wood that is 4 feet high, 8 feet long, and 2 sets of logs deep. A 1/2 cord is a stack of wood that is 4 feet high, 8 feet long, and 1 set of logs deep. A face cord is 1/3 of a cord.

A pick-up truck load is just over a 1/3rd of a cord. A bundle is the amount you usually buy at the grocery store or about 3 to 5 logs.

How much real wood would you say you burned?

88. DON'T KNOW (Go to Q22a)
99. REFUSED (Go to Q22a)

<If Q21 Eq 1, go to Q23>
<If Q21 Eq 2, skip to Q25>
<If Q21 Eq 3, go to Q23>

Q22a. When you light a fire, about how many logs do you use?

888. DON'T KNOW
999. REFUSED

Q22b. How often do you light a fire?

88. DON'T KNOW
99. REFUSED

<If Q21 Eq 1, go to Q23>
<If Q21 Eq 2, skip to Q25>
<If Q21 Eq 3, go to Q23>

Q23. Did you burn any of the following types of real wood in your wood stove(s) or fireplace insert(s) from May 2002 through April 2003? (Read responses, multiple response)

- (1) Oak or hickory
- (2) Pine
- (3) Hemlock or spruce
- (4) Maple, beech, or birch
- (5) Other hardwood
- (6) Other softwood <or>
- (7) Other (specify) _____
- (8) DON'T KNOW**
- (9) REFUSED**

<If Q23 has 1 answer only and Q21 Eq 2, skip to Q25>

<If Q23 has 1 answer only and Q21 Eq 3, skip to Q25>

<If Q23 has 1 answer only and Q21 Eq 1, skip to Q26>

<If Q23 has more than 1 answer, go to Q24>

<For Q24, show answers from Q23>

Q24. What percent of < name of wood from Q23> did you burn from May 2002 through April 2003?

Oak or hickory	_____%
Pine	_____%
Hemlock or spruce	_____%
Maple, beech, or birch	_____%
Other hardwood	_____%
Other softwood <or>	_____%
Other (specify) <CATI fill-in name>	_____%
DON'T KNOW (88)	
REFUSED (99)	

<If Q21 Eq 2 or 3, go to Q25>

<If Q21 Eq 1, skip to Q26>

Q25. How much artificial wood such as Duraflame, Pine Mountain, and Hearthlogg did you burn in your wood stove(s) or fireplace insert(s) from May 2002 through April 2003. There are two units of measure, logs or tons. A pallet of logs usually weighs a ton.

How much artificial wood would you say you burned?

-
- 8. DON'T KNOW** (Go to Q25a1)
 - 9. REFUSED** (Go to Q25a1)

Q25_B. If respondent says that the unit of measure is a box or a case

- 1. Yes, said box (Go to Q25_BN)
- 2. No, did not say box (Skip to Q26)
- 8. DON'T KNOW** (Skip to Q26)
- 9. REFUSED** (Skip to Q26)

Q25_BN. How many logs was that? _____

- 888. DON'T KNOW**
- 999. REFUSED**

Q25a1. When you light a fire, about how artificial wood do you use?

- 888. DON'T KNOW**
- 999. REFUSED**

Q25a2. How often do you light a fire? (Go to Q26)

- 88. DON'T KNOW**
- 99. REFUSED**

Q26. Now, I'd like you to tell me how many days each month from May 2002 through April 2003 your wood stove(s) or fireplace insert(s) were used. Let's start with May 2002. How many days were your wood stove(s) or fireplace insert(s) used in May 2002? How about June 2002?

- 1. Days (Go to Q26a)
- 2. Seasons (Skip to Q26S)
- 8. DON'T KNOW** (Skip to Q27a)
- 9. REFUSED** (Skip to Q27a)

Q26a. Days

- a. May 2002 _____
- b. June 2002 _____
- c. July 2002 _____
- d. August 2002 _____
- e. September 2002 _____
- f. October 2002 _____
- g. November 2002 _____
- h. December 2002 _____
- i. January 2003 _____
- j. February 2003 _____
- k. March 2003 _____
- l. April 2003 _____

DON'T KNOW (888)
REFUSED (999)

(Skip to Q27a)

Q26S. How did you typically use your wood stove(s) or fireplace insert(s) in each season? Spring includes March 2002 through May 2002. Summer includes June through August 2002. Fall includes September through November 2002, and Winter includes December 2002 through February 2003.

Q27a. From May 2002 through April 2003, did you typically use your wood stove(s) or fireplace insert(s) to burn wood on: (Read categories)

Weekdays (1) (Go to Q27b)

Weekends (2) <or> (Go to Q27b)

Weekdays and weekends (3) (Go to Q27c)

DON'T KNOW (8)

REFUSED (9)

Q27b. From May 2002 through April 2003, did you typically use your wood stove(s) or fireplace insert(s) to burn wood: (Read categories)

In the morning only (1)

In the evening only (2) <or>

Throughout the day and evening (3)

DON'T KNOW (8)

REFUSED (9)

<If Q27a Eq 1, 2, 8 or 9 and Q6a3 Eq 1, skip to Q28>

<If Q27a Eq 1, 2, 8 or 9 and Q6a4 Eq 1, skip to Q32>

<If Q27a Eq 1, 2, 8 or 9 and Q6a5 Eq 1, skip to Q39>

<If Q27a Eq 1, 2, 8 or 9 and Q6a6 Eq 1, skip to Q52>

<If Q27a Eq 1, 2, 8 or 9 and Q6a2 Eq 1, skip to THANK>

Q27c. From May 2002 through April 2003, did you typically use your wood stove(s) or fireplace insert(s) on weekdays and weekends to burn wood: (Read categories)

In the morning only (1)

In the evening only (2) <or>

Throughout the day and evening (3)

DON'T KNOW (8)

REFUSED (9)

<If Q6a3 Eq 1, skip to Q28>

<If Q6a4 Eq 1, skip to Q32>

<If Q6a5 Eq 1, skip to Q39>

<If Q6a6 Eq 1, skip to Q52>

<If Q6a2 Eq 1, skip to THANK>

V. PELLETT STOVES

Q28. Did you use your pellet stove(s) from May 2002 through April 2003?

- 1. Yes (Go to Q29)
- 2. No
- 8. Don't Know**
- 9. Refused**

<If Q6a4 Eq 1 and Q28 Eq 2, 8, or 9 skip to Q32>

<If Q6a5 Eq 1 and Q28 Eq 2, 8, or 9, skip to Q39>

<If Q6a6 Eq 1 and Q28 Eq 2, 8, or 9, skip to Q52>

Q29. Now we need to find out how much pellet fuel you used from May 2002 through April 2003. There are four units of measure: 20-pound bags, 40-pound bags, 50-pound bags, and a ton.

a. How many 20-pound bags of pellet fuel did you use from May 2002 through April 2003?

- 888. Don't Know**
- 999. Refused**

b. How many 40-pound bags of pellet fuel did you use from May 2002 through April 2003?

- 888. Don't Know**
- 999. Refused**

c. How many 50-pound bags of pellet fuel did you use?

- 888. Don't Know**
- 999. Refused**

d. How many tons of pellet fuel did you use?

888. Don't Know

999. Refused

Q30. Now, I'd like you to tell me how many days each month from May 2002 through April 2003 your pellet stove(s) were used. Let's start with May 2002. How many days were your pellet stove(s) used in May 2002? How about June 2002?

- | | |
|----------------------|----------------|
| 1. Days | (Go to Q30a) |
| 2. Seasons | (Skip to Q30S) |
| 8. DON'T KNOW | (Go to Q31a) |
| 9. REFUSED | (Go to Q31a) |

Q30a. Days

- a. May 2002 _____
- b. June 2002 _____
- c. July 2002 _____
- d. August 2002 _____
- e. September 2002 _____
- f. October 2002 _____
- g. November 2002 _____
- h. December 2002 _____
- i. January 2003 _____
- j. February 2003 _____
- k. March 2003 _____
- l. April 2003 _____

DON'T KNOW (888)

REFUSED (999)

(Skip to Q31a)

Q30S. How did you typically use your pellet stove(s) in each season? Spring includes March 2002 through May 2002. Summer includes June through August 2002. Fall includes September through November 2002, and Winter includes December 2002 through March 2003.

Q31a. From May 2002 through April 2003, did you typically use your pellet stove(s) to burn pellets on: (Read categories)

Weekdays (1) (Go to Q31b)

Weekends (2) <or> (Go to Q31b)

Weekdays and weekends (3) (Go to Q31c)

DON'T KNOW (8)

REFUSED (9)

Q31b. From May 2002 through April 2003, did you typically use your pellet stove(s) to burn pellets: (Read categories)

- In the morning only (1)
- In the evening only (2) <or>
- Throughout the day and evening (3)
- DON'T KNOW (8)**
- REFUSED (9)**

<If Q31a Eq 1, 2, 8 or 9 and Q6a4 Eq 1, skip to Q32>
<If Q31a Eq 1, 2, 8 or 9 and Q6a5 Eq 1, skip to Q39>
<If Q31a Eq 1, 2, 8 or 9 and Q6a6 Eq 1, skip to Q52>
<If Q31a Eq 1, 2, 8 or 9 and Q6a3 Eq 1, skip to THANK>

Q31c. From May 2002 through April 2003, did you typically use your pellet stove(s) on weekdays and weekends to burn pellets: (Read categories)

- In the morning only (1)
- In the evening only (2) <or>
- Throughout the day and evening (3)
- DON'T KNOW (8)**
- REFUSED (9)**

<If Q6a4 Eq 1, skip to Q32>
<If Q6a5 Eq 1, skip to Q39>
<If Q6a6 Eq 1, skip to Q52>
<If Q6a3 Eq 1, skip to THANK>

VI. WOOD FURNACES/BOILERS

Q32. Thinking back over the past year from May 2002 through April 2003, did you burn real wood or artificial logs using your wood furnace(s) or boiler(s)? Would you say you burned:

- 1. Real wood (Go to Q33)
- 2. Artificial logs (Go to Q36)
- 3. Both types of wood <or that> (Go to Q33)
- 4. You did not burn any wood
- 8. DON'T KNOW**
- 9. REFUSED**

<If Q6a5 Eq 1 and Q32 Eq 4, 8 or 9, skip to Q39>

<If Q6a6 Eq 1 and Q32 Eq 4, 8 or 9, skip to Q52>

<If Q6a4 Eq 1 and Q32 Eq 4, skip to THANK>

Q33. Now we need to find out how much real wood you burned in your wood furnace(s) or boiler(s) from May 2002 through April 2003. There are four units of measure: full cords; “fireplace” or 1/2 cords; pick-up truck loads; and bundles.

A full cord is a stack of wood that is 4 feet high, 8 feet long, and 2 sets of logs deep. A 1/2 cord is a stack of wood that is 4 feet high, 8 feet long, and 1 set of logs deep. A face cord is 1/3 of a cord.

A pick-up truck load is just over a 1/3rd of a cord. A bundle is the amount you usually buy at the grocery store or about 3 to 5 logs.

How much real wood would you say you burned?

-
- 88. DON'T KNOW (Go to Q33a)**
 - 99. REFUSED (Go to Q33a)**

<If Q32 Eq 1, go to Q34>

<If Q32 Eq 2, skip to Q36>

<If Q32 Eq 3, go to Q34>

Q33a. When you light a fire, about how many logs do you use?

- 888. DON'T KNOW**
- 999. REFUSED**

Q33b. How often do you light a fire?

--

88. DON'T KNOW

99. REFUSED

<If Q32 Eq 1, go to Q34>

<If Q32 Eq 2, skip to Q36>

<If Q32 Eq 3, go to Q34>

Q34. Did you burn any of the following types of real wood in your wood furnace(s) or boiler(s) from May 2002 through April 2003? (Read responses, multiple response)

(1) Oak or hickory

(2) Pine

(3) Hemlock or spruce

(4) Maple, beech, or birch

(5) Other hardwood

(6) Other softwood <or>

(7) Other (specify) _____

(8) DON'T KNOW

(9) REFUSED

<If Q34 has 1 answer only and Q32 Eq 2 skip to Q36>.

<If Q34 has 1 answer only and Q32 Eq 3 skip to Q36>.

<If Q34 has 1 answer only and Q32 Eq 1 skip to Q37>.

<If Q34 has more than 1 answer, go to Q35>

<For Q35, show answers from Q34>

Q35. What percent of < name of wood from Q34> did you burn from May 2002 through April 2003?

Oak or hickory	_____%
Pine	_____%
Hemlock or spruce	_____%
Maple, beech, or birch	_____%
Other hardwood	_____%
Other softwood <or>	_____%
Other (specify) <u><CATI fill-in name></u>	_____%
DON'T KNOW (88)	
REFUSED (99)	

<If Q32 Eq 2 or 3, go to Q36>

<If Q32 Eq 1, skip to Q37>

Q36. How much artificial wood such as Duraflame, Pine Mountain, and Hearthlogg did you burn in your wood furnace(s) or boiler(s) from May 2002 through April 2003. There are two units of measure, logs or tons. A pallet of logs usually weighs a ton.

How much artificial wood would you say you burned?

8. DON'T KNOW (Go to Q37a1)
9. REFUSED (Go to Q37a1)

Q36_B. If respondent says that the unit of measure is a box

1. Yes, said box (Go to Q37_BN)
2. No, did not say box (Skip to Q37)
8. DON'T KNOW (Skip to Q37)
9. REFUSED (Skip to Q37)

Q37_BN. How many logs was that? _____

888. DON'T KNOW
999. REFUSED

Q37a1. When you light a fire, about how many artificial logs do you use?

888. DON'T KNOW
999. REFUSED

Q37a2. How often do you light a fire? (Go to Q37)

88. DON'T KNOW

99. REFUSED

Q37. Now, I'd like you to tell me how many days each month from May 2002 through April 2003 your wood furnace(s) or boiler(s) were used. Let's start with May 2002. How many days were your wood furnace(s) or boiler(s) used in May 2002? How about June 2002?

- 1. Days (Go to Q37a)
- 2. Seasons (Skip to Q37S)
- 8. DON'T KNOW (Skip to Q38a)**
- 9. REFUSED (Skip to Q38a)**

Q37a. Days

- a. May 2002 _____
- b. June 2002 _____
- c. July 2002 _____
- d. August 2002 _____
- e. September 2002 _____
- f. October 2002 _____
- g. November 2002 _____
- h. December 2002 _____
- i. January 2003 _____
- j. February 2003 _____
- k. March 2003 _____
- l. April 2003 _____

DON'T KNOW (888)

REFUSED (999)

(Skip to Q38a)

Q37S. How did you typically use your wood furnace(s) or boiler(s) in each season? Spring includes March through May 2002. Summer includes June through August 2002. Fall includes September through November 2002, and Winter includes December 2002 through February 2003.

Q38a. From May 2002 through April 2003, did you typically use your wood furnace(s) or boiler(s) to burn wood on: (Read categories)

Weekdays (1) (Go to Q38b)

Weekends (2) <or> (Go to Q38b)

Weekdays and weekends (3) (Go to Q38c)

DON'T KNOW (8)

REFUSED (9)

Q38b. From May 2002 through April 2003, did you typically use your wood furnace(s) or boiler(s) to burn wood: (Read categories)

In the morning only (1)

In the evening only (2) <or>

Throughout the day and evening (3)

DON'T KNOW (8)

REFUSED (9)

<If Q38a Eq 1, 2, 8 or 9 and Q6a5 Eq 1, skip to Q39>

<If Q38a Eq 1, 2, 8 or 9 and Q6a6 Eq 1, skip to Q52>

<If Q38a Eq 1, 2, 8 or 9 and Q6a4 Eq 1, skip to THANK>

Q38c. From May 2002 through April 2003, did you typically use your wood furnace(s) or boiler(s) on weekdays and weekends to burn wood: (Read categories)

In the morning only (1)

In the evening only (2) <or>

Throughout the day and evening (3)

DON'T KNOW (8)

REFUSED (9)

<If Q6a5 Eq 1, skip to Q39>

<If Q6a6 Eq 1, skip to Q52>

<If Q6a4 Eq 1, skip to THANK>

VII. OTHER INDOOR WOOD BURNING EQUIPMENT

<If Q6a5b >1, say “I’m going to ask you questions about two of your most commonly used indoor wood burning devices. Let’s start with the first device.”

Q39. Is this indoor wood burning equipment a catalytic device?

- 1. Yes
- 2. No
- 8. Don’t Know**
- 9. Refused**

Q40. Was your indoor wood burning equipment purchased after July 1990?

- 1. Yes (Go to Q42 if Q6a5b >1. Go to Q45 if Q6a5b=1)
- 2. No (Go to Q41)
- 8. Don’t Know (Go to Q41)**
- 9. Refused (Go to Q41)**

What is the brand and model of your indoor wood burning equipment? Let’s start with the brand. What is the model?

Q41. Brand: _____

- Don’t Know (88)**
- Refused (99)**

Q41a. Model: _____

- Don’t Know (88)**
- Refused (99)**

<If Q6a5b >1, go to Q42, otherwise skip to Q45>

Q42. Now, I’d like to ask you some questions about your second indoor wood burning device. Is this device a catalytic device?

- 1. Yes
- 2. No
- 8. Don’t Know**
- 9. Refused**

Q43. Was your indoor wood burning equipment purchased after July 1990?

- 1. Yes (Go to Q45)
- 2. No (Go to Q44)
- 8. Don't Know** (Go to Q44)
- 9. Refused** (Go to Q44)

What is the brand and model of your indoor wood burning equipment? Let's start with the brand. What is the model?

Q44. Brand: _____

Don't Know (88)
Refused (99)

Q44a. Model: _____

Don't Know (88)
Refused (99)

Q45. Thinking back over the past year from May 2002 through April 2003, did you burn any real wood or artificial logs using your indoor wood burning equipment? Would you say you burned:

- 1. Real wood (Go to Q46)
- 2. Artificial logs (Go to Q49)
- 3. Both types of wood <or> (Go to Q46)
- 4. You did not burn any wood
- 8. DON'T KNOW**
- 9. REFUSED**

<If Q6a6 Eq 1 and Q45 Eq 4, 8, or 9, skip to Q52, otherwise skip to THANK>

Q46. Now we need to find out how much real wood you burned in your indoor wood burning equipment from April 2002 through April 2003. There are four units of measure: full cords; “fireplace” or 1/2 cords; pick-up truck loads; and bundles.

A full cord is a stack of wood that is 4 feet high, 8 feet long, and 2 sets of logs deep. A 1/2 cord is a stack of wood that is 4 feet high, 8 feet long, and 1 set of logs deep. A face cord is 1/3 of a cord.

A pick-up truck load is just over a 1/3rd of a cord. A bundle is the amount you usually buy at the grocery store or about 3 to 5 logs.

How much real wood would you say you burned?

88. DON'T KNOW (Go to Q46a)
99. REFUSED (Go to Q46a)

<If Q45 Eq 1, go to Q47>
<If Q45 Eq 2, skip to Q49>
<If Q45 Eq 3, go to Q47>

Q46a. When you light a fire, about how many logs do you use?

888. DON'T KNOW
999. REFUSED

Q46b. How often do you light a fire?

88. DON'T KNOW
99. REFUSED

<If Q45 Eq 1, go to Q47>
<If Q45 Eq 2, skip to Q49>
<If Q45 Eq 3, go to Q47>

Q47. Did you burn any of the following types of real wood in your indoor wood burning equipment from May 2002 through April 2003? (Read responses, multiple response)

- (1) Oak or hickory
- (2) Pine
- (3) Hemlock or spruce
- (4) Maple, beech, or birch
- (5) Other hardwood
- (6) Other softwood <or>
- (7) Other (specify) _____
- (8) DON'T KNOW**
- (9) REFUSED**

<If Q47 has 1 answer only and Q45 Eq 2, skip to Q49>.

<If Q47 has 1 answer only and Q45 Eq 3, skip to Q49>

<If Q47 has 1 answer only and Q45 Eq 1, skip to Q50>

<If Q47 has more than 1 answer, go to Q48>

Q48. What percent of < name of wood from Q47> did you burn from May 2002 through April 2003?

Oak or hickory	_____%
Pine	_____%
Hemlock or spruce	_____%
Maple, beech, or birch	_____%
Other hardwood	_____%
Other softwood <or>	_____%
Other (specify) <u><CATI fill-in name></u>	_____%
DON'T KNOW (88)	
REFUSED (99)	

<If Q45 Eq 2 or 3, go to Q49>

<If Q45 Eq 1, skip to Q50>

Q49. How much artificial wood such as Duraflame, Pine Mountain, and Hearthlogg did you burn in your indoor wood burning equipment from May 2002 through April 2003. There are two units of measure, logs or tons. A pallet of logs usually weighs a ton.

How much artificial wood would you say you burned?

-
- 8. DON'T KNOW (Go to Q49a1)**
 - 9. REFUSED (Go to Q49a2)**

Q49b. If respondent says that the unit of measure is a box or a case

- 1. Yes, said box (Go to Q49_BN)
- 2. No, did not say box (Skip to Q50)
- 8. DON'T KNOW (Skip to Q50)**
- 9. REFUSED (Skip to Q50)**

Q49_BN. How many logs was that? _____

- 888. DON'T KNOW**
- 999. REFUSED**

Q49a1. When you light a fire, about how many artificial logs do you use?

- 888. DON'T KNOW**
- 999. REFUSED**

Q49a2. How often do you light a fire? (Go to Q50)

- 88. DON'T KNOW**
- 99. REFUSED**

Q50. Now, I'd like you to tell me how many days each month from May 2002 through April 2003 your indoor wood burning equipment was used. Let's start with May 2002. How many days was your indoor wood burning equipment used in May 2002? How about June 2002?

- 1. Days (Go to Q50a)
- 2. Seasons (Skip to Q50S)
- 8. DON'T KNOW (Skip to Q51a)**
- 9. REFUSED (Skip to Q51a)**

Q50a. Days

- a. May 2002 _____
- b. June 2002 _____
- c. July 2002 _____
- d. August 2002 _____
- e. September 2002 _____
- f. October 2002 _____
- g. November 2002 _____
- h. December 2002 _____
- i. January 2003 _____
- j. February 2003 _____
- k. March 2003 _____
- l. April 2003 _____

DON'T KNOW (888)
REFUSED (999)

(Skip to Q51a)

Q50S. How did you typically use your indoor wood burning equipment in each season? Spring includes March through May 2002. Summer includes June through August 2002. Fall includes September through November 2002 and Winter includes December 2002 through February 2003.

Q51a. From May 2002 through April 2003, did you typically use your indoor wood burning equipment to burn wood on: (Read categories)

- Weekdays (1) (Go to Q51b)
- Weekends (2) <or> (Go to Q51b)
- Weekdays and weekends (3) (Go to Q51c)
- DON'T KNOW (8)**
- REFUSED (9)**

Q51b. From May 2002 through April 2003, did you typically use your indoor wood burning equipment to burn wood: (Read categories)

- In the morning only (1)
- In the evening only (2) <or>
- Throughout the day and evening (3)
- DON'T KNOW (8)**
- REFUSED (9)**

<If Q6a6 Eq 1 and Q51a Eq 1 or 2, skip to Q52>

<If Q6a6 Eq 1 and Q51a Eq 8 or 9, skip to Q52>

<If Q6a5 Eq 1 and Q51a Eq 1 or 2, skip to THANK>

<If Q6a5 Eq 1 and Q51a Eq 8 or 9, skip to THANK>

Q51c. From May 2002 through April 2003, did you typically use your indoor wood burning equipment on weekdays and weekends to burn wood: (Read categories)

- In the morning only (1)
- In the evening only (2) <or>
- Throughout the day and evening (3)
- DON'T KNOW (8)**
- REFUSED (9)**

<If Q6a6 Eq 1, skip to Q52>

<If Q6a5 Eq 1, skip to THANK>

VIII. OUTDOOR WOOD BURNING EQUIPMENT

Q52. Thinking back over the past year from May 2002 through April 2003, did you burn real wood or artificial logs using your outdoor wood burning equipment? Would you say you burned:

- 1. Real wood (Go to Q53)
- 2. Artificial logs (Go to Q56)
- 3. Both types of wood <or that> (Go to Q53)
- 4. You did not burn any wood (Go to Thank)
- 8. DON'T KNOW** (Go to Thank)
- 9. REFUSED** (Go to Thank)

Q53. Now we need to find out how much real wood you burned in your outdoor wood burning equipment from May 2002 through April 2003. There are four units of measure: full cords; "fireplace" or 1/2 cords; pick-up truck loads; and bundles.

A full cord is a stack of wood that is 4 feet high, 8 feet long, and 2 sets of logs deep. A 1/2 cord is a stack of wood that is 4 feet high, 8 feet long, and 1 set of logs deep. A face cord is 1/3 of a cord.

A pick-up truck load is just over a 1/3rd of a cord. A bundle is the amount you usually buy at the grocery store or about 3 to 5 logs.

How much real wood would you say you burned?

-
- 88. DON'T KNOW** (Go to Q53a)
 - 99. REFUSED** (Go to Q53a)

<If Q52 Eq 1, go to Q54>
<If Q52 Eq 2, skip to Q56>
<If Q52 Eq 3, go to Q54>

Q53a. When you light a fire, about how many logs do you use?

- 888. DON'T KNOW**
- 999. REFUSED**

Q53b. How often do you light a fire?

--

88. DON'T KNOW

99. REFUSED

<If Q52 Eq 1, go to Q54>

<If Q52 Eq 2, skip to Q56>

<If Q52 Eq 3, go to Q54>

Q54. Did you burn any of the following types of real wood in your outdoor wood burning equipment from May 2002 through April 2003? (Read responses, multiple response)

(1) Oak or hickory

(2) Pine

(3) Hemlock or spruce

(4) Maple, beech, or birch

(5) Other hardwood

(6) Other softwood <or>

(7) Other (specify) _____

(8) DON'T KNOW

(9) REFUSED

<If Q54 has 1 answer only and Q52 Eq 2, skip to Q56>.

<If Q54 has 1 answer only and Q52 Eq 3, skip to Q56>.

<If Q54 has 1 answer only and Q52 Eq 1, skip to Q57>.

<If Q54 has more than 1 answer, go to Q55>

<For Q55, show answers from Q54>

Q55. What percent of < name of wood from Q54> did you burn from May 2002 through April 2003?

Oak or hickory	_____%
Pine	_____%
Hemlock or spruce	_____%
Maple, beech, or birch	_____%
Other hardwood	_____%
Other softwood <or>	_____%
Other (specify) <u><CATI fill-in name></u>	_____%
DON'T KNOW (88)	
REFUSED (99)	

<If Q52 Eq 1, skip to Q57>

<If Q52 Eq 2 or 3, go to Q56>

Q56. How much artificial wood such as Duraflame, Pine Mountain, and Hearthlogg did you burn in your outdoor wood burning equipment from May 2002 through April 2003? There are two units of measure, logs or tons. A pallet of logs usually weighs a ton.

How much artificial wood would you say you burned?

8. DON'T KNOW	(Go to Q56a1)
9. REFUSED	(Go to Q56a1)

Q56_B. If respondent says that the unit of measure is a box or a case

1. Yes, said box	(Go to Q56_BN)
2. No, did not say box	(Skip to Q57)
8. DON'T KNOW	(Skip to Q57)
9. REFUSED	(Skip to Q57)

Q56_BN. How many logs was that? _____

888. DON'T KNOW
999. REFUSED

Q56a1. When you light a fire, about how many artificial logs do you use?

888. DON'T KNOW
999. REFUSED

Q56a2. How often do you light a fire? (Go to Q57)

888. DON'T KNOW
999. REFUSED

Q57. Now, I'd like you to tell me how many days each month from May 2002 through April 2003 your outdoor wood burning equipment was used. Let's start with May 2002. How many days was your outdoor wood burning equipment used in May 2002? How about June 2002?

- 1. Days (Go to Q57a)
- 2. Seasons (Skip to Q57S)
- 8. DON'T KNOW** (Skip to Q58a)
- 9. REFUSED** (Skip to Q58a)

Q57a. Days

- a. May 2002 _____
- b. June 2002 _____
- c. July 2002 _____
- d. August 2002 _____
- e. September 2002 _____
- f. October 2002 _____
- g. November 2002 _____
- h. December 2002 _____
- i. January 2003 _____
- j. February 2003 _____
- k. March 2003 _____
- l. April 2003 _____

DON'T KNOW (888)
REFUSED (999)

(Skip to Q58a)

Q57S. How did you typically use your outdoor wood burning equipment in each season? Spring includes March through May 2002. Summer includes June through August 2002. Fall includes September through November 2002, and Winter includes December 2002 through February 2003.

Q58a. From May 2002 through April 2003, did you typically use your outdoor wood burning equipment to burn wood on: (Read categories)

- Weekdays (1) (Go to Q58b)
- Weekends (2) <or> (Go to Q58b)
- Weekdays and weekends (3) (Go to Q58c)
- DON'T KNOW (8)**
- REFUSED (9)**

Q58b. From May 2002 through April 2003, did you typically use your outdoor wood burning equipment to burn wood: (Read categories)

- In the morning only (1)
- In the evening only (2) <or>
- Throughout the day and evening (3)
- DON'T KNOW (8)**
- REFUSED (9)**

<If Q58a Eq 1, 2, 8 or 9, skip to THANK>

Q58c. From May 2002 through April 2003, did you typically use your outdoor wood burning equipment on weekdays and weekends to burn wood: (Read categories)

- In the morning only (1)
- In the evening only (2) <or>
- Throughout the day and evening (3)
- DON'T KNOW (8)**
- REFUSED (9)**

Thank

Thank you very much for participating in this interview.

Appendix B

Frequently Asked Questions

E.H. Pechan & Associates, Inc. Wood Combustion Study
FAQs
Project #950

What is the purpose of the study?

The purpose of the study is to find out how residents in the Mid-Atlantic and Northeast use wood burning equipment for heating, cooking, or aesthetic purposes as related to air emissions.

Who is conducting the study?

This study is being sponsored by MANE-VU (The Mid-Atlantic/Northeast Visibility Union) and is being conducted by Pechan & Associates, an environmental engineering consulting firm based in Virginia.

How did we get your telephone number?

Your telephone number was randomly selected from residential telephone numbers in your state or city.

Who will be calling you?

Population Research Systems, a private survey research firm located in San Francisco, has been hired to conduct the telephone interviews.

Why should you participate?

Through your cooperation, MARAMA (The Mid-Atlantic Regional Air Management Association) and MANE-VU (The Mid-Atlantic/Northeast Visibility Union) will gain important information about woodburning air emissions within the Mid-Atlantic and Northeast regions. This information will help MANE-VU improve air quality in these areas.

What are MARAMA and MANE-VU?

MARAMA is a non-profit organization, which promotes coordination among state and local air pollution control agencies to prevent and reduce air pollution in the Mid-Atlantic Region. MANE-VU was formed by the Mid-Atlantic and Northeastern states and tribes to address haze in those areas.

Do you have to do this?

No, your participation is voluntary and you can choose not to answer any questions that you would like.

How long is the interview?

The interview takes about 10 minutes on the telephone.

How will the results be used?

Results from the study will be used to inform The Mid-Atlantic Regional Air Management Association (MARAMA) and The Mid-Atlantic/Northeast Visibility Union (MANE-VU) about wood burning activities in the Mid-Atlantic and Northeast.

Are my answers confidential?

Yes. We have very strict safeguards to protect your privacy. Only group results will be included in the final report.

How can I be sure this is authentic?

I can let you speak to my supervisor and he or she can provide you with additional information about the study. Information about the project is available on the MANE-VU website at www.manevu.org/

Calls can be directed to: Dr. Katrin Ewald at 1-800-777-0737. Please have them refer to project # 950 when calling.

Who is the person managing the study?

The person managing the study is Dr. Katrin Ewald, a researcher at Population Research Systems. I can have her give you a call when she is available.

How can I get more information about the study?

More information about the study is available on the MANE-VU website at www.manevu.org/

Additional Information

WHAT IS RESIDENTIAL WOOD COMBUSTION?

Residential wood combustion means burning wood for heating, cooking, and aesthetic purposes inside and outside the home.

WHAT TYPES OF RESIDENTIAL APPLIANCES BURN WOOD?

Residential wood burning appliances include: fireplaces and fireplace inserts, wood stoves, pellet stoves, masonry heaters, wood furnaces, and outdoor wood burning equipment such as fire pits, wood fired barbecues, outdoor fireplaces, and chimineas.

- Fireplaces are the most popular type of residential wood burning appliance used primarily for aesthetic purposes.
- Fireplace inserts are heating units that retrofit into an existing traditional fireplace. They can be used to change an existing non-efficient fireplace into a wood burning, heat-producing unit.
- Wood stoves are enclosed freestanding wood burning units used to heat a specific room or zone of a house.
- Pellet stoves are heat-producing units fueled by sawdust pellets. They are the lowest emission solid-fuel burning appliances available.
- Masonry heaters are wood burning units that produce small, hot fires. The heat from the fire is absorbed by masonry that radiates warmth as the heat is slowly released.
- Wood furnaces are insulated outdoor wood burning units that provide heat and hot water for an entire house or building.
- Firepits burn wood in an open container or enclosure to produce heat for cooking, warmth, or aesthetic purposes in an outdoor backyard setting.
- Wood-fired barbecues are freestanding outdoor grills that use wood or wood pellets as fuel to cook food.
- Outdoor fireplaces burn wood for warmth and aesthetics in a backyard setting. Outdoor fireplaces come in a range of configurations from site-built masonry to small portable units.
- Chimineas are freestanding, outdoor patio stoves, often constructed of terra cotta. They burn wood for warmth and aesthetic purposes.

IS BURNING WOOD HARMFUL?

Yes, burning wood produces wood smoke, a source of pollution that affects the air we breathe and the environment we live in. Wood smoke can contribute up to 80% of the air pollution in neighborhoods during the wintertime. Wood smoke contains high levels of harmful and cancer-causing chemicals. Burning wood also produces a lot of dust and soot in the form of tiny particles. These particles get inhaled deep into our lungs and can exacerbate cardiovascular problems, irritate lungs and eyes, trigger headaches, and worsen respiratory diseases.

Wood smoke also contributes to the unpleasant smell and brown haze we experience on winter mornings. Wood smoke is a contributor to haze, which reduces visibility and obscures our view.

HOW CAN I BURN WOOD MORE RESPONSIBLY?

- One important way is to use low emission wood burning appliances.
- The condition and type of firewood you burn and the fire you build also impacts the amount of wood smoke produced. Use only seasoned firewood that has been stacked and dried for at least six months. Hardwoods such as oak, hickory, and elm tend to produce a longer-lasting fire.
- Manufactured firelogs are designed to be low emission alternatives to burning firewood. There are two types of firelogs, sawdust and wax/sawdust blend.
- Build small hot fires and start a fire with fire starter; don't use gasoline, kerosene, or charcoal starter. Also, never burn trash in a wood burning appliance.